

What is claimed is:

- 1 1. A user-programmable communications arrangement including a computer
2 having a display, the arrangement comprising: a user interface; and a programmable
3 controller, the user interface and the programmable controller being adapted to:
4 provide user-selected IP telephony configuration information to a control center
5 communicatively coupled to a plurality of IP telephony devices;
6 display a control interface for at least one of: user control of an IP telephony
7 device, office telephone administration control of a plurality of telephony devices, and
8 system administrator control of telephony system configuration; and
9 the IP telephony configuration information being selected to control
10 communications between, and to programmably configure, the control center and the
11 plurality of IP telephony devices.
- 1 2. The user-programmable communications arrangement of claim 1, wherein the
2 computer is adapted to announce an incoming call via the display, the call announce
3 being effected without overtaking currently-running applications.
- 1 3. The user-programmable communications arrangement of claim 2, wherein the
2 call announce is effected using a locally-installed OOP applet that runs in the
3 background of the computer.

1 4. The user-programmable communications arrangement of claim 2, wherein the
2 call announce displays user control options including at least one of: caller ID, speaker
3 phone, answer, forward to voicemail, hold, and call termination.

1 5. The user-programmable communications arrangement of claim 1, wherein the
2 user interface includes a graphic user interface (GUI).

1 6. The user-programmable communications arrangement of claim 1, wherein the
2 computer includes one of the plurality of IP telephony devices.

1 7. The user-programmable communications arrangement of claim 1, wherein the
2 controller is adapted to access personal contact information.

1 8. The user-programmable communications arrangement of claim 7, wherein the
2 personal contact information is arranged in a searchable database accessible by the
3 controller, the database being accessible via user-defined shuffle-search statements.

1 9. The user-programmable communications arrangement of claim 1, wherein the
2 controller is adapted to provide a control interface for system administration control of
3 an IP telephony network, the interface being adapted to provide at least one of: IP
4 telephony system configuration and system status information.

1 10. The user-programmable communications arrangement of claim 9, wherein the IP
2 telephony system status information includes at least one of: IP address assignment
3 information for telephony devices, user-access security control level settings, current
4 telephony device hardware settings, display settings for the controller, and telephony
5 device location information.

1 11. The user-programmable communications arrangement of claim 9, wherein the
2 control interface is adapted to configure the IP telephony system to control at least one
3 of: telephony device address assignment, user-access permissions, system report
4 generation, display settings for the controller, voice mail parameters, IP telephony
5 device hardware configuration, system backups, call routing protocol, call accounting,
6 email configuration settings and call logging.

1 12. The user-programmable communications arrangement of claim 1, wherein the
2 computer is adapted to use OOP for providing the user-selected IP telephony
3 configuration information to the control center.

1 13. The user-programmable communications arrangement of claim 1, wherein user
2 control of an IP telephony device includes active call control and call receive settings
3 including at least one of: speaker phone activation, call answer, call forward to
4 voicemail, call forward to another number or IP telephony address, call hold, call
5 termination, display of caller ID, speed dial, call transfer, redial, voicemail forwarding,

6 voicemail messaging, multi-party calling call muting, video control, and remote access
7 control for remote access to telephony services.

1 14. The user-programmable communications arrangement of claim 1, wherein each
2 of the plurality of IP telephony devices includes a CPU, and wherein the user interface
3 and controller are further adapted to:

4 provide user-selected email configuration information to a control center
5 communicatively coupled to each CPU;

6 display a control interface for at least one of: user control of email
7 configuration, office administration control of the plurality of CPUs, and system
8 administrator control of email system configuration; and

9 the email configuration information being selected to control communications
10 between, and to programmably configure, the control center and the plurality of CPUs.

1 15. A user-programmable communications arrangement comprising:

2 a user-interface device having a display, the device being adapted to provide IP
3 telephony communications configuration information to a user via the display and to
4 communicate IP telephony communications configuration selections from the user to a
5 CPU; and

6 a programmable CPU communicatively coupled to the user interface device and
7 having an OOP interface coupled to an IP telephony communications link, the
8 microprocessor being adapted to receive the IP telephony communications
9 configuration selections from the user-interface device and, in response to the received

10 selections, control selected functions of selected IP telephony devices of an IP
11 telephony communications system via the IP telephony communications link.

1 16. The user-programmable communications controller of claim 15, wherein the
2 CPU is adapted to control the scope of IP telephony communications configuration
3 selections that can be made by a particular user.

1 17. The user-programmable communications controller of claim 15, wherein the IP
2 telephony system includes a memory storage device having user-access configuration
3 data, wherein the CPU receives the configuration data for controlling the scope of
4 configuration selections that can be made by a particular user.

1 18. The user-programmable communications controller of claim 17, wherein the
2 memory storage device is adapted to send display information to the user-interface
3 device using OOP, the display information including available IP telephony
4 communications selections.

1 19. The user-programmable communications controller of claim 15, wherein the
2 user-interface device communicates the configuration selections using OOP.

1 20. A user-programmable communications control system for controlling a
2 communications network using OOP code, the control system comprising:

3 a plurality of telephony devices coupled to an IP communications link and
4 adapted to communicate IP telephony data;

5 a computer station having an OOP interface, the station being adapted to display
6 communications information including telephony communications information and to
7 provide communications control selections including telephony control selections to the
8 IP communications link; and

9 a programmable communications server having an IP telephony switch and an
10 OOP interface coupled to the IP communications link and adapted to receive the
11 communications control selections, the programmable communications server being
12 adapted to control the communications network, including the plurality of telephony
13 devices, responsive to the selections received through the OOP interface.

1 21. The user-programmable communications control system of claim 20, wherein
2 the scope of communications control selections that can be made at the computer station
3 is controlled by the programmable communications server based on a predefined user-
4 access permission level.

1 22. The user-programmable communications control system of claim 20, further
2 comprising a plurality of the computer stations, wherein programmable communications
3 server is adapted to receive communications control selections from each of the
4 plurality of computer stations.